



Data Paper

Biota from the coastal wetlands of Praia da Vitória (Terceira, Azores, Portugal): Part 4 - Vascular plants

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Abstract

Background

The data presented here come from field observations, carried out between 2014 and 2017, as part of a LIFE research project aiming to preserve and restore three coastal wetlands of Praia da Vitória (Terceira Island, Azores, Portugal) (LIFE-CWR). A total of 23 vascular plant species surveys were carried out in three sites: one for each semester in Paul da Praia da Vitória (PPV) and Paul da Pedreira do Cabo da Praia (PPCP); one for each semester (except in 2014) in Paul do Belo Jardim (PBJ). The main objectives were to determine the plant richness of the three sites and to monitor yearly variation on species composition.

New information

A total of 107 taxa, belonging to 50 families, were observed, many of which are new records for the area, especially in PBJ and PPCP, where 78 and 92% of species records were new. A few very rare species in the Azores were recorded in these coastal wetlands, namely *Lotus creticus*, *Bolboschoenus maritimus*, *Juncus maritimus* and *Polygonum maritimum*.

Keywords

Azores, Magnoliophyta, Magnoliopsida, Liliopsida, Terceira, Plantae, Pteridophyta, wetlands

Introduction

Before human settlement in the 15th century, Azorean natural vegetation was most probably dominated by forests (Elias et al. 2016). Those forest habitats were gradually replaced (except for a few mountainous areas of some islands) by agriculture fields, urban areas, pastures, production forests and exotic forests (Martins 1993). In coastal areas, natural vegetation (where it still remains) consists essentially of supratidal communities (with the endemics *Azorina vidalii*, *Euphorbia azorica* and *Spergularia azorica*), coastal grasslands (mainly of *Festuca petraea*) and coastal scrublands, usually dominated by *Erica azorica* and *Morella faya*. Given that rocky cliffs dominate the Azorean coastline and human-induced habitat changes were higher on low elevation areas, dune communities and coastal wetlands are extremely rare. Coastal wetlands usually have shallow lagoons, separated from the sea by natural barriers. Typically, lagoons are fringed by mangroves in the tropics and marsh plants, like *Juncus*, in the temperate zones (Morton 2014).

In the Azores, only six sites can be properly called coastal wetlands: Lajes do Pico (Pico Island), Fajã do Santo Cristo and Fajã dos Cubres (in São Jorge Island) and the three sites of the coastal wetland complex of Praia da Vitória (Terceira Island). These habitats are home to rare species (in the Azores), like the aquatic plants *Ruppia maritima* and *R. spiralis* (Morton 2019). The coastal wetland complex of Praia da Vitória (Terceira Island, Azores, Portugal) is composed by Paul da Praia da Vitória (PPV), Paul do Belo Jardim (PBJ) and Paul da Pedreira do Cabo da Praia (PPCP). Since the earlier works by Dias et al. (1991), Morton et al. (1997) and Morton et al. (1998), the first comprehensive study of Praia da Vitória wetlands was done by the LIFE-CWR coastal wetlands restoration project, under the responsibility of Praia da Vitória Municipality. The present data paper is the fourth of a series dealing with the biota from these coastal wetlands (see Borges et al. 2018, Gabriel et al. 2019, Goulart et al. 2019).

General description

Purpose: This work is part of a comprehensive study regarding the biodiversity of the coastal wetlands of Praia da Vitória (Terceira, Azores) under the scope of the LIFE-CWR coastal wetlands restoration project. The aim of this work was to inventory the vascular plants present in the three coastal areas of Praia da Vitória (PPV, PBJ and PPCP), in order to determine the plant richness of the three sites and the yearly variation in species composition.

Project description

Title: Inventory of vascular plant species of three coastal wetlands of Terceira Island (Azores)

Personnel: The inventory was conducted during four years between April 2014 and September 2017 by Mariana R. Brito, with the collaboration of César Pimentel, under the responsibility of Elisabete C. Nogueira and advice of Rui B. Elias. Species identification was performed by Mariana R. Brito and Rui B. Elias. Paulo A. V. Borges coordinated the publication of the series of data papers regarding the biodiversity of Terceira island coastal wetlands (arthropods, bryophytes, vascular plants and birds).

Study area description: The Azores belong to the Holarctic Biogeographical Kingdom and Eurosiberian Region (Rivas-Martinez et al. 2002). Terceira Island is the third largest island of the archipelago and has the fourth longest shoreline (Forjaz et al. 2004) (Fig. 1). Like other Azorean islands (with the exception of Santa Maria and Graciosa), the prevalent type of climate in Terceira is temperate with no dry season and with a mild summer (Köppen Climate Classification - Cfb). However, in Praia da Vitória (a lowland area in the east of the island), the climate is temperate with hot and dry summers (Csa) (Atlas 2012). For more details on the description of the study area see Borges et al. (2018). During the study period, conservation measures were implemented, namely the creation/enlargement of water bodies in PBJ and PPV and the improvement of bird watching regulation and control of *Arundo donax* in PPCP and PPV.

Design description: A total of 23 surveys were carried out in three sites (PPV, PBJ and PPCP). Surveys took place in each semester (except for PBJ in 2014) during 2-3 days (depending on the dimension of the study areas), for a total of 51 days of direct observation. Study areas were delimited using GPS and included the margins of water bodies and the surrounding terrestrial areas.

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